

Amendments to Claims

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1. (Currently Amended) A fuel cell power plant comprising:

a plurality of fuel cells arranged contiguously in a stack, each of said fuel cells having dimensions in width and height which are substantially equal to the width and height dimensions of the other fuel cells in said stack, whereby the edges of said fuel cells combine to form substantially planar surfaces;

a plurality of cooler plates, each having cooler inlet channels and cooler outlet channels and cooler flow channels extending between said inlet channels and said outlet channels, said cooler plates being disposed between at least some of said fuel cells, said cooler plates having principal width and height dimensions substantially the same as those of said fuel cells, each cooler plate having a protrusion containing said cooler inlet channels and a protrusion containing said cooler outlet channels, said protrusions extending outwardly from one or more edges of said cooler plates, thereby extending away from one or more of said planar surfaces;

an elastomeric rubber sealant material directly contacting said one or more planar surfaces, completely surrounding each of said protrusions, and extending between each one of said protrusions and a protrusion adjacent to said one protrusion, said elastomeric sealant material extending on either side of all of said protrusions and extending around said one or more planar surfaces sufficiently to form a sealing surface; and

at least one manifold structure contacting said sealant material and defining coolant manifolds, said at least one manifold structure defining between itself and said sealant material (a) a coolant inlet manifold in fluid communication with said inlet channels or (b) a coolant outlet manifold in fluid communication with said outlet manifold channels, and also defining between itself and said sealant material (c) a reactant gas inlet manifold or (d) a reactant gas outlet manifold.

2. (Original) A fuel cell power plant according to claim 1 wherein:
said elastomeric sealant material is a silicone rubber.

3. (Currently Amended) A fuel cell power plant comprising:

a plurality of fuel cells arranged contiguously in a stack, each of said fuel cells having dimensions in width and height which are substantially equal to the width and height dimensions of the other fuel cells in said stack, whereby the
5 edges of said fuel cells combine to form substantially planar surfaces;

a plurality of cooler plates, each having cooler inlet channels and cooler outlet channels and cooler flow channels extending between said inlet channels and said outlet channels, said cooler plates being disposed between at least some of said fuel cells, said cooler plates having principal width and height dimensions
10 substantially the same as those of said fuel cells, each cooler plate having a protrusion containing said cooler inlet channels and a protrusion containing said cooler outlet channels, said protrusions extending outwardly from one or more edges of said cooler plates, thereby extending away from one or more of said planar surfaces;

15 an elastomeric sealant material directly contacting said one or more planar surfaces, completely surrounding each of said protrusions, and extending between each one of said protrusions and a protrusion adjacent to said one protrusion, said elastomeric sealant material extending on either side of all of said protrusions sufficiently to form a sealing surface; and

20 at least one manifold structure contacting said sealant material and defining coolant manifolds, said at least one manifold structure defining between itself and said sealant material (a) a coolant inlet manifold in fluid communication with said inlet channels or (b) a coolant outlet manifold in fluid communication with said outlet channels.

4. (Original) A fuel cell power plant according to claim 3 wherein:
said elastomeric sealant material is a silicone rubber.

5. (Original) A fuel cell power plant according to claim 3 wherein said manifold structure also defines between itself and said sealant material a reactant gas inlet or outlet manifold.

6. (Original) A fuel cell power plant according to claim 3 wherein:
the protrusions of each of said cooler plates containing said coolant inlet channels are disposed on an edge of each cooler plate which is opposite to an edge of each cooler plate from which the protrusion containing said outlet channels
5 extend.

7. (Currently Amended) A fuel cell power plant comprising:
a fuel cell stack;
a sealant surface ~~on~~ directly contacting said fuel cell stack;
a manifold structure secured to said sealant surface and forming with said
5 sealant surface either (a) a coolant inlet manifold or (b) a coolant outlet manifold,
and also forming with said sealant surface either (c) a reactant gas inlet manifold or
(d) a reactant gas outlet manifold.

8. (Cancelled)